

Western DataCom and NASA Glenn: Enabling Secure Mobile Communication



TECHNOLOGY

NASA Glenn Research Center scientists have extensive experience working with secure mobile communications technologies. This wealth of knowledge has been of great benefit to Western DataCom, which is developing a PC card to enable secure hardware-based mobile communications.

COMMERCIAL APPLICATION

Western DataCom manufactures communication security products. In 2005, Western DataCom partnered with the NASA Glenn Research Center through a GATE Partnership Award to develop a PCMCIA card that provides secure network communication independent of the host computer.

Current secure data communications are enabled by software that is susceptible to hacking, can leak information into open systems, and which divert power from other operations. Hardware that provides secure communication independent of software will answer this market need. Western DataCom's PC card provides such a hardware solution that can be used for wireless or wired connections. The card establishes an encryption tunnel for data to pass through. The card will allow decryption of files without internet access, will be easy to transport, and will be able to work independently of the computer's operations.

Key tasks involved in this collaborative project included the design and build of an alpha prototype for proof of concept purposes, the development and testing of the alpha prototype, and the design and build of firmware to allow for miniaturization of the alpha prototype into a PCMCIA card format.



Western DataCom's secure network PC card addresses a growing market need.

SOCIO-ECONOMIC BENEFIT

Western DataCom and NASA Glenn successfully built and tested a prototype PCMCIA card for secure communication over the Internet. The company believes their strong partnership with NASA Glenn, and the results demonstrated through the partnership enabled by the GATE award, gives them a clear advantage over the competition as they move their product toward the market.

As the business world grows more "virtual" and companies increasingly communicate and transmit sensitive information via e-mail and other Internet-based methods, ensuring the security of such communication is growing more important. Western DataCom's product is poised to meet that need by enabling a new level of secure communication.

NASA APPLICATIONS

NASA Glenn's extensive experience with Internet protocols for communication through space was extremely beneficial to Western DataCom. NASA Glenn assisted Western DataCom with scaling down the PC card prototype through hardware revisions. NASA Glenn also devoted time to testing and evaluating the prototype, including testing within the research center's state of the art mobile networking lab.

Point of Contact:



GATE
Glenn Alliance for
Technology Exchange

The Glenn Alliance for Technology Exchange (GATE) is a collaborative effort of the following three organizations:



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